

**Croatian National Bank**  
**Prudential Regulation and Bank Supervision Area**  
**Specialised On-Site Supervision Department**

**VALIDATION METHODOLOGY FOR THE ADVANCED MEASUREMENT APPROACH  
FOR THE CALCULATION OF THE CAPITAL REQUIREMENT FOR OPERATIONAL  
RISK**

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## **1 INTRODUCTION**

### **1.1 Powers of the Croatian National Bank to exercise supervision of credit institutions**

The Act on the Croatian National Bank stipulates that the Croatian National Bank is competent for the exercise of supervision and oversight in accordance with the laws governing the operation of credit institutions.

The Credit Institutions Act prescribes that the Croatian National Bank shall exercise supervision of credit institutions by:

- 1) collecting and analysing reports and information, ongoing monitoring of the operation of credit institutions and other persons required to report to the Croatian National Bank pursuant to the Credit Institutions Act and regulations adopted under that Act and other laws and regulations adopted under these laws;
- 2) carrying out on-site examinations of credit institutions' operation; and
- 3) imposing supervisory measures.

For the purposes of the Credit Institutions Act, 'supervision' means verification of whether a credit institution operates in accordance with risk management rules, other provisions of that Act and regulations adopted under that Act, other laws governing the carrying out of financial activities of credit institutions, regulations adopted under these laws, its own rules, and professional standards and rules.

### **1.2 Legal framework**

When carrying out on-site examinations for the purpose of assessing the adequacy of the established operational risk management system and validating the Advanced Measurement Approach for the calculation of the capital requirement for operational risk of particular relevance are the Credit Institutions Act and the following subordinate legislation: the Decision on the capital adequacy of credit institutions and the Decision on risk management. Also, in assessing the appropriateness of the organisational structure and organisational culture of

importance are the practice developed by credit institutions and experience in carrying out on-site examinations of credit institutions.

### **1.3 Purpose of the validation methodology for the Advanced Measurement Approach for the calculation of the capital requirement for operational risk**

This document describes the methodology which the CNB will use to validate the Advanced Measurement Approach (AMA) for the calculation of the capital requirement for operational risk. The document also describes the requirements to be met by a credit institution when carrying out its own AMA validation.

In this context, the purpose of the validation methodology for the Advanced Measurement Approach for the calculation of the capital requirement for operational risk is to prescribe the methods, criteria and procedures to verify and assess compliance with relevant regulations and the adequacy of the operational risk management system, which enhances objectivity and comparability of assessments of various credit institutions.

The validation process, i.e. supervisory assessment aims to assess the compliance with the (qualitative and quantitative) qualifying criteria for the use of the Advanced Measurement Approach for the calculation of the capital requirement for operational risk prescribed by the Credit Institutions Act and the Decision on the capital adequacy of credit institutions.

With regard to credit institutions that are members of domestic or foreign groups of credit institutions, their Advanced Measurement Approach for the calculation of the capital requirement for operational risk may be partly or wholly designed and supervised on a group-wide basis. In assessing whether credit institutions within the group meet the requirements set out in this document, the CNB will closely cooperate with consolidating supervisors of the group.

Chapter 3 of the validation methodology for the Advanced Measurement Approach for the calculation of the capital requirement for operational risk sets out the criteria which supervisors apply when assessing the adequacy of the operational risk management system and providing an evaluation based on the Credit Institutions Act and the Decision on the capital adequacy of

credit institutions. The criteria are stated according to several areas. In addition, Attachment 1 *Validation Guide* provides the criteria in the form of principles, including the recommendations from the CEBS document GL 10.

In addition to supervisory assessment, the purpose of which is to assess whether a credit institution meets the (qualitative and quantitative) qualifying criteria for the use of the AMA, one should remember that in the Decision on risk measurement the CNB prescribed the minimum requirements for the establishment of the risk management system, including operational risk, which apply to all credit institutions. All credit institutions are expected to apply appropriate methods and procedures when establishing an adequate operational risk management system, internal control system and internal management in general, commensurate with the type, scope and complexity of their operation and their risk profile, as well as the selected approach for the calculation of the capital requirement for operational risk. At all times and without exception, a credit institution is obliged to capture all operational risk exposures by its operational risk measurement and management system, bearing in mind its specific risk profile and the established risk appetite. Also, it should be noted that regardless of this validation, the CNB supervises operational risk, i.e. it verifies and assesses operational risk management systems established in credit institutions, assesses their suitability for individual credit institutions bearing in mind the type, scope and complexity of their operation and the operational risk profile in general. The CNB particularly examines how credit institutions (in quantitative and qualitative terms) identify, assess and measure their operational risk profile, while in practice a credit institution assures supervisors and provides evidence that its operational risk measurement and management systems systematically and completely capture all risks to which the credit institution is or might be exposed, and that it takes adequate measures to contain operational risk. In addition, the CNB examines the extent to which the operational risk measurement system is integrated into day-to-day risk management processes and whether the output of the measurement system is used in the decision-making process and for improving business processes and the internal control system. The CNB also verifies and assesses the level and trend of operational risk exposure.

## **2 ORGANISATION AND IMPLEMENTATION OF VALIDATION**

The validation process, i.e. supervisory assessment aims to assess the compliance with the (qualitative and quantitative) qualifying criteria for the use of the Advanced Measurement Approach for the calculation of the capital requirement for operational risk (Decision on the capital adequacy of credit institutions). Before entering into the assessment of the details of the operational risk measurement and management systems, it is necessary for the supervisor to form an opinion of the overall picture. The issues that should be analysed include, among others: the suitability of the organisational structure in terms of the roles, responsibilities and functions assigned to the different areas involved in managing and measuring risks; the sufficiency of the resources assigned; the practicality and feasibility of the implementation plan for institutions adopting a phased roll-out; the group structure, including all subsidiaries and their specific characteristics. Before submitting an application, a group needs to carry out internal validation of the operational risk measurement and management system to verify that it meets the qualifying criteria and satisfies the use test. Supervisors assess the following areas:

- 1) Methodology and documentation: supervisors examine and assess the risk measurement methodology and the quality of internal documentation supporting the methodology.
  
- 2) Data quality: Supervisors assess the quality of data and databases being used in the risk measurement system, including the four AMA elements. This is to ensure the soundness of the data set used for estimation and also the correctness of the capital calculation.
  
- 3) Quantitative procedures: Supervisors will assess the reasonableness and robustness of the assumptions and techniques used to model internal data, integrate internal and external data, generate scenario data, and incorporate business environment and internal control factors into the operational risk measurement system. Supervisors will also assess some of the issues linked to parameter estimation and validation. Supervisors will discuss with the group the appropriate interpretation of the data.
  
- 4) Qualitative procedures: Supervisors will assess the use test, internal governance, the role of senior management, the adequacy of internal controls, and other areas in order to assess the operational risk management processes and the qualitative aspects of the measurement system.

5) Technological environment: supervisors will evaluate the reliability and integration of systems, the functionality of the model, and the quality of information provided by systems.<sup>1</sup>

*Specific characteristics of the verification of the qualifying criteria for the use of the Advanced Measurement Approach*

With regard to qualitative and quantitative criteria for the AMA, credit institutions often ask, particularly when the approach is used on a group-wide basis, whether some qualifying criteria may be met on a group-wide basis alone, i.e. what requirements under Chapter 3 may be met on a group-wide basis and what requirements must be met on an individual basis. In that context, particularly noteworthy is the feature of operational risk measurement relating to data and methods applied in determining operational risk distributions and modelling, which is described in Chapter 3. This is why Basel II and the Capital Requirements Directive provide that some requirements may be met on a group-wide basis without stipulating the actual requirements to be met on each of the bases so as not to impose unnecessary limits on groups of credit institutions when establishing operational risk measurement systems.

It should be stressed that under Croatian regulations a credit institution must meet all qualitative and quantitative criteria for the AMA. In terms of meeting the criteria, a credit institution is expected to use methods and procedures that are appropriate for the type, scope and complexity of its operation and its operational risk measurement and management system must at all times and without exception capture all operational risk exposures taking account of the credit institution's specific risk profile and the established risk appetite.

Under Article 128, paragraph (3) of the Credit Institutions Act, the consolidating supervisor and competent supervisory authorities for members of a bank group agree on the level of application of criteria on a group-wide basis, taking account of the type, scope and complexity of operation of the credit institution and group of banks and the size of operational risk exposure.

As mentioned in the introduction to this chapter, the CNB particularly verifies how a credit institution conducts qualitative and quantitative assessment and how it measures its operational risk profile and proves in practice that its operational risk measurement and management system

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<sup>1</sup> CEBS, GL 10 (April 2006.), pp. 21-25.

captures all operational risk exposures in the context of meeting the requirements, regardless of whether and to what extent it meets some requirements on a group-wide basis. In addition, the CNB examines how the operational risk measurement system is integrated into day-to-day risk management processes and whether the output of the measurement system is used in the decision-making process and for improving business processes and the internal control system. Bearing in mind relevant international and domestic practices in using the AMA, the CNB expects that quantitative requirements, in particular those related to the use of all four AMA elements are met on an individual basis.

However, a credit institution may meet some quantitative requirements (e.g. those that require the use of a large quantity of data that may be secured only at the level of a group of credit institutions or that require complex statistical analyses and modelling based on these data) on a group-wide basis if it proves that these requirements cannot be adequately met on an individual basis (for example, it is not feasible and there are no sufficient resources), or the meeting of these requirements on a group-wide basis improves credit institution's operational risk measurement and management.

The CNB also expects that all qualitative requirements be met on an individual basis. By way of exception, if justified by the type, scope and complexity of operation, the CNB may allow that certain qualitative requirements are met on a group-wide basis if the credit institution can prove that this improves its operational risk management.

In this context, supervisors in the European Union, which coordinate their positions within the CEBS, expect that a credit institution contributes to the meeting of requirements on a group-wide basis to the maximum possible extent that can be reasonably expected.

With regard to the option to allocate the centrally modelled and calculated capital requirement for operational risk, supervisors require, and expect it to be done within a reasonable time, that capital requirement allocation mechanisms take account of the operational risk profile of the credit institution; that they are sufficiently sensitive to risks, and that the credit institution and the group of banks verify and improve them on an ongoing basis.

Upon the assessment, working together and in full consultation (in accordance with the Capital Requirements Directive), local and consolidating supervisors reach a joint decision and define the requirements to be met by a group. Within the process of reaching a joint decision, which officially lasts for six months, supervisors should do everything within their powers to reach a joint decision. The joint decision is set out in a document containing the fully reasoned decision and takes into account views and reservations expressed by the other supervisors. It is important to distinguish between these "decisions" and "permissions" by which individual member states implement the joint decision in their respective jurisdiction.

### **3 VALIDATION PROCEDURES**

Validation of the AMA for the calculation of the capital requirement for operational risk is carried out based on qualitative and quantitative information collected and analysed by supervisors. Information needed to reach conclusions and evaluate operational risk management is mostly collected through on-site examinations, off-site examinations, dialogues with the credit institution and dialogues with local supervisors. The dialogue with the credit institution is conducted at various vertical and horizontal levels and includes: the management board, head and staff of the risk control function (charged with operational risk management), internal audit, head of IT security, staff charged with business changes and project management, heads and leading experts from business segments, head of the IT organisational unit, staff charged with managing human resources and legal disputes and other staff supervisors deem necessary.

When verifying and assessing the operational risk management system and evaluating its adequacy for a specific credit institution, supervisors take into account the following areas: organisational structure, including roles and responsibilities, resources and a risk culture; strategies, policies and other internal bylaws; operational risk management process; and business continuity management.

#### **3.1 Documents examined by supervisors in the assessment and validation of the operational risk management system**

The following documents are examined by supervisors in the assessment and validation of the operational risk management system:

- documentation on the operational risk management system and qualifying criteria (where applicable), which includes:
  - a detailed description of the organisational structure and operational risk management system, in particular relating to the division of tasks and responsibilities connected with operational risk management within the context of risk management and the credit institution as a whole;
  - a detailed description of strategies for containing operational risks and the approach used to identify and assess these risks;
  - a description of the operational risk monitoring and reporting system;
  - a description of the business continuity management process;
  - a description of the change management and project management processes, laying stress on new products and services and business changes in general;
- documentation on the operational risk measurement system, which includes:
  - a description of the established process for identifying, assessing, containing and monitoring operational risk;
  - a description of the established process for collection, classification and storage of internal and external data and the process for selection, implementation and use in the scenario analysis model and factors reflecting the business environment and the internal control system (where applicable);
  - detailed information on models used and a description of correlation identification and measurement methods (where applicable);
  - a description of strategies and policies relating to the impact of insurance and other risk transfer mechanisms;
  - documentation relating to the organisation of processes and internal validation procedures and internal validation report (where applicable);
  - documentation on the structure of the operational risk measurement and management systems in the IT system;
  - documentation relating to the integration of the operational risk measurement system into risk management and use of the operational risk measurement system output in the decision-making process, improvement of business processes and the internal control system;
- documentation which comprises existing reports on the credit institution's risk profile or which indicates the quality of operational risk management, including:

- minutes/documentation on the meetings of the management and supervisory boards related to operational risk management;
- minutes/documentation on the meetings of the operational risk management board (where applicable);
- internal audit minutes/documentation/reports;
- reports of the risk control function showing exposure to operational risk, and regular and exceptional analyses; and
- reports/documentation on operational risk assessment (centralised and decentralised by business segments).

### **3.2 Organisational structure, roles and responsibilities, and culture**

This section presents some of the criteria that supervisors use to assess and evaluate the adequacy of the operational risk management system. The criteria are distributed according to specific areas.

The organisational structure is primarily assessed in the context of organisation of operational risk management. However, bearing in mind that operational risk is inherent in all activities, processes, products and systems of a credit institution, drivers of operational risk in the context of its definition and the relation with internal controls and the entire internal management, it is crucial to verify the organisational structure as a whole. Of course, account is also taken of numerous sources of information, including the internal audit opinion.

#### *Organisational structure*

- An appropriate organisational structure has been established comprising powers and responsibilities that are precisely determined, clearly defined and distributed among the employees.
- The organisational structure enables an effective communication and cooperation at all organisational levels, including an appropriate information flow within the credit institution.
- Conflicts of interest are limited and/or prevented to the maximum extent possible.
- The credit institution in a timely manner identifies the areas of operation which may give rise to potential conflicts of interests and it ensures that any form of conflict of interest is

adequately prevented. Appropriate analysis is necessary, for example of compliance, and prevention of conflicts of interest must be subject to regular and exceptional internal review.

- The organisational structure provides for a transparent and documented decision-making process. This is verified on actual examples when making key decisions in the management system.
- The organisational structure reflects the fact that operational risk is distributed across the entire operation and incorporates also the central component which, in general, directs, coordinates, analyses and supervises operational risk and its management, and a decentralised component, which is in charge of the practical application and implementation of day-to-day management in its business area.
- The organisational structure of the operational risk management system includes all levels of the credit institution's operation, as follows:
  - supervisory board
  - management board
  - operational risk management board
  - business line management
  - control functions, in particular, the risk control function, the internal audit and the compliance function
  - specialised functions, e.g. head of IT security
  - all employees of the credit institution.
- Organisational units, functions and employees involved in the operational risk management system clearly understand their roles, authority levels and accountabilities within the operational risk management system. The central function, particularly the risk control function, may assist the management board and senior management in understanding and managing operational risk.
- All relevant levels of the operational risk management system, including staff charged with specific tasks and responsibilities understand that all staff of the credit institution should play a role in operational risk management.

#### *Supervisory board*

- The supervisory board is appropriately involved in the credit institution's operational risk management system.

- The supervisory board grants approval to the management board of the credit institution for its operational risk management strategy and policies, for the credit institution's basic organisational structure and for the policy on salaries and other income.
- The supervisory board must be notified on the operational risk management system and operational risk exposures.

### *Management board*

- The tasks and responsibilities of management board members are adequately distributed and one management board member is responsible for the management of risks, including operational risk.
- The management board understands all aspects of the credit institution's operational risk and its risk profile as a distinct category of risk that should be managed.
- The credit institution's management board defines the operational risk strategy and ensures that this strategy is aligned with the credit institution's strategy and overall business objectives.
- The credit institution's management board promotes and establishes clearly defined and consistent lines of responsibility, including the separation of powers and responsibilities among the supervisory board, management board, board appointed by it and senior management.
- The credit institution's management board approves and periodically examines and aligns risk management strategies, basic policies and the organisational structure with relevant roles and responsibilities, and monitors the operational risk management framework as a whole.
- The management board reviews periodic high-level reports on the credit institution's overall operational risk profile, which identify material risks and strategic implications for the institution.
- The credit institution's management board ensures that the senior management is taking necessary steps to implement prescribed policies and other internal bylaws, and to establish processes.
- The credit institution's management board creates and promotes an appropriate operational risk management culture by measures, activities and the management framework and environment in general.

### *Senior management*

- Senior management is responsible for operational risk management and implements strategies, policies and the overall operational risk management framework.
- Senior management establishes the process of risk management in its business area, including the establishment of procedures and compiling instructions and guidelines for carrying out the credit institution's business activities which result in risk exposure. It also assigns necessary powers, tasks and responsibilities required for the implementation of the framework.
- Senior management actively participates in the operational risk management process and particularly contributes to operational risk identification and assessment, and to verification of efficiency of the internal control system within its area of responsibility and at the level of the entire operation of the credit institution through joint workshops or board establishment.
- Senior management takes appropriate steps to ensure that the management framework, including roles and responsibilities, is understood by employees, and assesses the adequacy of the framework in light of the risks inherent in business activities.
- The credit institution has ensured adequate resources for the framework implementation (staff and systems), which implies their number and expertise in terms of experience and professional knowledge.
- The credit institution has established effective communication channels between staff responsible for operational risk management and staff responsible for the management of credit, market and other risks as well as with all other staff, bearing in mind the distribution of operational risk management processes.

### *Business line management*

- As business line management is accountable on a day-to-day basis for managing and reporting operational risks specific to their business units, it has established an adequate operational risk management framework within its business line, in cooperation with senior management and the central function.
- Business line management has ensured that adequate policies, processes, procedures and resources are in place to manage operational risk for all material activities, products,

processes and systems. Implementation of the operational risk management framework within each business line should reflect the type, scope and complexity of operation of that business line and its inherent operational risk. Bearing in mind the specific nature of a particular business line, the framework must be consistent with the firm-wide operational risk management framework.

- In view of the distributive nature of operational risk and the risk management system, the credit institution has ensured that leading experts and/or other employees in individual business lines play a role in the design, development and application of the system on a local level, and has ensured adequate cooperation with the central function and, as necessary, other functions.

*Central operational risk management function (risk control function)*

Bearing in mind various possibilities to organise operational risk management, the central operational risk management function, or at least its part, may actively decide on and assume risks. However, the credit institution is required to establish an independent risk control function whose tasks are prescribed and set out in this section.

- The credit institution has established a permanent and effective risk control function independent from business processes and activities that give rise to risk and that it monitors and supervises commensurate with its size and type, scope and complexity of its operation and its risk profile. Some tasks performed by the risk control function relate to the operational risk management system.
- The credit institution periodically, and at least on an annual basis, reviews the adequacy of procedures and efficiency of the operational risk control function.
- In its internal bylaw on the (operational) risk control function, the credit institution has prescribed at least the following:
  - objectives, scope and method of work of the control function;
  - organisational structure and role of the control function;
  - position of the control function within the credit institution and measures to ensure independence;
  - powers, responsibilities and relations with other organisational units and other control functions;

- right of access to data and information;
  - duties and responsibilities of the person responsible for the operation of the control function as a whole; and
  - reporting systems.
- Commensurate with its size and type, scope and complexity of its operation, the credit institution has ensured an appropriate number of adequately qualified and experienced staff to perform the tasks of the (operational) risk control function.
  - The (operational) risk control function has adopted an annual work plan based on documented risk assessment.
  - The central operational risk management function (risk control function) participates in the design, development and implementation of strategies, policies and procedures for operational risk management. Also, it participates in the design and implementation of the methodology for assessing and measuring operational risk of the credit institution.
  - The central operational risk management function (risk control function) participates in the supervision of methods, procedures and models applied within the operational risk management system.
  - The central operational risk management function (risk control function) coordinates operational risk management activities at the level of the whole credit institution.
  - The central operational risk management function (risk control function) develops and implements the system for reporting on operational risk exposure and consolidates/integrates reports for the purposes of the credit institution's management board.
  - The central operational risk management function (risk control function) implements and coordinates education and provides appropriate advice on operational risk management to business segments.
  - The central operational risk management function (risk control function) closely cooperates with the internal audit function, the compliance function and other functions and organisational units to ensure appropriate application of the operational risk management system.
  - In addition, the credit institution has ensured that at least the following tasks are performed within the (operational) risk control function:
    - risk analyses, which include the identification and measurement, and assessment of risks to which the credit institution is or might be exposed in its operation;
    - monitoring all material risks to which the credit institution is exposed;

- performing stress tests;
- verification of implementation and efficiency of methods and procedures to manage risks to which the credit institution is or might be exposed, including risks from the macroeconomic environment;
- examination and evaluation of the adequacy and efficiency of internal controls in the risk management process;
- assessments of the adequacy and documentation of the risk management methodology;
- providing proposals and recommendations for adequate risk management;
- analyses, monitoring and reporting on the adequacy of the credit institution's internal capital and verification of strategies and procedures for assessing internal capital;
- analyses of risks associated with new products and new markets;
- reporting on risk management to the supervisory and management boards;
- reporting on its work to the supervisory and management boards; and
- carrying out other verifications necessary for adequate risk control.

#### *Internal audit*

- Internal audit reviews the operational risk management system and evaluates its efficiency and adequacy bearing in mind its application. This includes the review of all components of the system as well as the organisation and activities of the central function and business lines.
- The credit institution has ensured that the scope and frequency of reviews are consistent with the risk profile. Internal audit puts special emphasis on the practical application of policies, methodologies and procedures, and of the system as a whole.
- As part of its regular activities of reviewing business areas, internal audit verifies the application of the operational risk management system in terms of its efficiency and adequacy and, in line with its methodology, verifies the credit institution's exposure to operational risk. When making conclusions within a certain area, internal audit takes into account all identified deficiencies and weaknesses, irregularities and illegalities as well as the characteristics of the overall operational risk profile.
- Internal audit has included operational risk in its risk assessment methodology and developed a detailed audit methodology/program for the operational risk management system as a whole.

## *Employees*

- Depending on the type, scope and complexity of its operation and organisation of the operational risk management function, the credit institution has ensured an appropriate number of employees possessing professional knowledge and experience. It has also determined the key employees and their deputies involved in the operational risk management system, as well as an adequate policy on salaries.
- The credit institution has adopted an annual training plan, which contains a staff education plan for operational risk. The education plan includes all employees involved in the operational risk management and reporting process and, as necessary, other staff, for the purpose of promoting an appropriate operational risk culture.
- The credit institution has ensured that roles of employees charged with particular activities in the operational risk management system, such as risk identification and monitoring or reporting on compliance, are independent from the business lines entrusted to these employees (the quality and reliability of their identification and assessment do not depend on their general role in the business line).

## *Operational risk organisational culture*

- The credit institution has ensured that employees at all levels are aware of their powers, roles and responsibilities in the operational risk management system. Also, relevant employees are aware of business goals and risk appetite.
- The management board and senior management in their actions provide full support and initiative in the implementation of the operational risk management system. In addition, senior management actively participates in the operational risk management process.
- The risk organisational culture is based on high professional standards and ethical norms of business behaviour.
- Business activities and operational risk management activities are implemented by employees possessing adequate professional knowledge and experience.
- The credit institution has established an operational risk management environment in which staff can raise operational risk problems openly without fear of negative consequences.
- The management board, senior management and business line management have created an environment in which employees actually care to detect and improve the management of

operational risk, which increases the quality of operation. In addition, internal bylaws stipulate that senior management and business line management are primarily responsible for operational risk management.

### 3.3 Strategy, policies and other internal bylaws

- An operational risk management strategy<sup>2</sup> has been adopted, either as a separate document or as part of the overall risk management strategy.
- The strategy provides guidance on the operational risk appetite, at least on its basic principles.
- At a minimum, the strategy comprises objectives and basic principles of assuming and managing operational risk. The risks inherent in the credit institution's operation have been taken into consideration.
- The operational risk management strategy is consistent with the credit institution's business strategy.
- The operational risk management strategy has been adopted by the credit institution's management board and approved by the supervisory board.
- The credit institution has established a mechanism to revise the risk management strategy.
- Policies and other internal bylaws governing in detail the operational risk management system have been adopted.
- Policies, rulebooks and other internal bylaws take into account that operational risk is inherent in all activities, processes, products and systems and prescribe in detail the elements of the operational risk managements system, including at least the following:
  - definition of operational risk consistent with the Credit Institutions Act, including the types and characteristics of risks to which the credit institution is exposed;
  - definition of material operational risk and material operational risk loss;
  - determination of the operational risk appetite;
  - roles and clear lines of responsibility and accountability for operational risk management in the credit institution, while taking account of operational risk characteristics, such as its distribution;

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<sup>2</sup> As elements of the strategy are often present in several internal bylaws, these criteria are comprised in the Operational risk management policy.

- methodology, including principles, criteria, methods and procedures for determining and measuring, and assessing risks to which the credit institution is or might be exposed;
  - principles for determining and classifying operational risk events and drivers of operational risk in credit institution's activities, processes and systems for the purpose of measuring and assessing operational risk;
  - principles, procedures and criteria to contain operational risk;
  - procedures for operational risk monitoring and reporting on operational risk exposures;
  - analysing material losses and implementation of adequate measures in case such losses are incurred;
  - inclusion of risk measurement and monitoring results in day-to-day operations of the credit institution;
  - procedures and measures taken in case of departures from established policies and procedures;
  - procedures and measures in crisis situations;
  - where applicable, group-wide risk management.
- Additional policies and procedures related to operational risk management have been adopted for each area of the credit institution's operation, in line with general umbrella policies for operational risk management. For example, internal bylaws may include the management of operational risk in the processes of retail operations (vaults, deposits, loans), treasury operations, centralised performance of back office operations, etc.
  - Umbrella policies for operational risk management are supported by internal bylaws regulating operational risk management in specific areas such as: outsourcing, prevention of money laundering and terrorist financing, new products and business changes, "knowing your customer" and selection of customers, IT systems, business continuity planning, etc.
  - Policies and other internal bylaws are adopted in writing, clearly defined and documented and available to all credit institution employees involved in the operational risk management system.
  - Policies and other internal bylaws are revised at least on an annual basis and more often in case of significant changes in operational risk exposures.

### 3.4 Compliance with the AMA qualifying criteria

The essence of the validation process, i.e. supervisory assessment is to assess the compliance with the (qualitative and quantitative) qualifying criteria for the use of the Advanced Measurement Approach for the calculation of the capital requirement for operational risk (Credit Institutions Act and the Decision of the capital adequacy of credit institutions).

In this context, it is useful to fill in worksheet 1 Validation Guide in Chapter 4 Attachments (*Attachment 1 Validation Guide*).

## 4 ATTACHMENTS

### *Attachment 1 Validation Guide*

Abbreviations used:

CAD – Decision on the capital adequacy of credit institutions (OG 1/2009, 41/2009, 75/2009 and 2/2010)

GL 10 – Guidelines on the implementation, validation and assessment of Advanced Measurement (AMA) and Internal Ratings Based (IRB) Approaches, CEBS, April 2006.